

METHOD AND APPARATUS FOR INDUCING SPUTUM SAMPLES FOR
DIAGNOSTIC EVALUATION

CROSS-REFERENCE TO RELATED APPLICATION(S)

This application is a continuation of U.S. Patent Application No.

5 09/387,312, filed August 31, 1999 for "Method and Apparatus for Inducing Sputum
Samples for Diagnostic Evaluation" by Nicholas P. Van Brunt and Donald J.

now Pat No. 6,374,316
Gagne. This application is related to U.S. Patent Application No. 09/387,319 for
"Pneumatic Chest Compression Vest with Front Panel Bib" *now abandoned* and U.S. Patent
Application No. 09/387,339 for "Chest Compression Vest with Connecting Belt" *now U.S. Patent No. 6,471,663*

10 which were filed on the same day, August 31, 1999, and also assigned to American
Biosystems, now doing business as Advanced Respiratory.

BACKGROUND OF THE INVENTION

The present invention relates to an apparatus and method for
inducing sputum samples from a patient. In particular, the present invention relates
15 to obtaining high quality sputum samples for diagnosing pulmonary disorders,
especially lung cancer.

Lung cancer has a survival rate of only 14% and is the leading cause
of cancer death in the United States. The poor prognosis for lung cancer is related
to both the lack of effective early detection methods, and the inability to precisely
20 locate the diseased area of the lung to be treated. However, improved imaging
techniques now allow much better tumor location capabilities, once detected, to
allow specific treatment even at very early stages.

A cooperative trial undertaken by Johns Hopkins Oncology Center,
Memorial Sloan-Kettering Cancer Center, and the Mayo Clinic utilized sputum
25 induction as an early screening method to determine if a reduction in lung cancer
deaths could be achieved. This study showed the resectability and survival rates
among the study group were higher than among the control group, but the mortality
rates were not reduced. This result led health policy groups to conclude that this
type of screening method could not be justified.

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